

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 15-34 are presently active, Claims 1-14 having been previously canceled without prejudice, Claims 15-16, 18-19, 21-23, 25-26, and 28 having been amended, Claims 29-34 having been added by way of the present amendment. No new matter has been added.

In the outstanding Office Action, Claims 15, 18, 21, 22, 25 and 28 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 22-23, 25-26, and 28 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ueda (U.S. Pat. No. 6,163,633). Claims 15-16, 18-19, and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ueda. Claim 17, 20, 24, and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ueda.

Regarding the 35 U.S.C. § 112, second paragraph, rejection to Claims 15, 18, 21, 22, 25 and 28, Claims 15, 18, 21, 22, 25 and 28 have been amended to more particularly point out that the plate has a first side configured to be disposed on an optical waveguide and a second side opposite to the first side, and a heater or heat absorber is provided on the second side of the plate. Thus, it is respectfully submitted that the 35 U.S.C. § 112, second paragraph, rejection has been overcome.

Regarding the 35 U.S.C. § 102(b) rejection to Claims 22-23, 25-26, and 28 as being anticipated by Ueda, Applicants respectfully traverse the outstanding grounds for rejection, because in Applicants' view, amended independent Claims 22, 25, and 28 patentably distinguish over Ueda, as discussed below.

Claim 22 recites a plate having a first side configured to be disposed on an optical waveguide and a second side opposite to the first side, a heater or heat absorber provided on the second side of the plate or buried therein. On the other hand, FIG.4 of Ueda discloses the

Peltier elements (6, 7), which are used as a heater or heat absorber. However, Ueda does not disclose a plate disposed on an optical waveguide (5, 8), and therefore Peltier elements (6, 7) are not provided on the plate. Since Ueda fails to teach every element of the claim 22, it is respectfully submitted that Claim 22 patentably distinguishes over Ueda.

Similar arguments as set forth above apply to the rejection of Claims 25 and 28. Therefore, independent Claim 22, 25, and 28 and dependent Claims 23 and 26 which depend from Claims 22 and 25 are also believed to be allowable.

Regarding the rejection of Claims 15-16, 18-19, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ueda, Applicants respectfully traverse the outstanding grounds for rejection, because in Applicants' view, amended independent Claims 15, 18, and 21 patentably distinguish over Ueda, as discussed below.

Firstly, Claim 15 recites a plate having a first side configured to be disposed on an optical waveguide and a second side opposite to the first side, a heater or heat absorber provided on the second side of the plate or buried therein. On the other hand, FIG.4 of Ueda discloses the Peltier elements (6, 7), which are used as a heater or heat absorber. However, Ueda does not disclose a plate disposed on an optical waveguide (5, 8), and therefore Peltier elements (6, 7) are not provided on the plate. Since Ueda fails to teach or suggest all the limitations of the claim 15, it is respectfully submitted that Claim 15 patentably distinguishes over Ueda.

Further, Claim 15 recites that a sum of surface roughness of the plate and heater or heat absorber at a portion where the plate and heater or heat absorber is in contact with the pedestal and surface roughness of the pedestal at a portion where the pedestal is contact with the plate and heater or heat absorber is over 0.05 μm . By these features, the invention recited in Claim 15 assures an excellent homogeneity of the surface temperature distribution of the

plate.¹ On the other hand, the outstanding Office Action states that it would have been obvious to one having ordinary skill in the art at the time the invention was made to include components with the roughness values as claimed in order to provide better frictional support and since it has been held that discovering an optimal value of a result effective variable involves only routine skill in the art.

However, Applicants respectfully submit that the asserted statement by the outstanding Office Action is improper on the basis that there is no suggestion or motivation, either in Ueda or in the knowledge generally available to one of ordinary skill in the art, to modify Ueda to include components with the roughness values recited in Claim 15, even if the heat sink (12 or 13) in Ueda corresponds to a pedestal recited in Claim 15. Ueda discloses the heat sinks (12, 13) on the upper part of the Peltier elements (6, 7). The heat sinks are to improve the flow of heat into the Peltier elements². In contrast, by the features recited in Claim 15 that sum of surface roughness of the plate and heater or heat absorber at a portion where the plate and heater or heat absorber is in contact with the pedestal and surface roughness of the pedestal at a portion where the pedestal is contact with the plate and heater or heat absorber is over 0.05 μm , the heat does not easily be conducted from the plate and heater or heat absorber to the pedestal, which assure an excellent homogeneity of surface temperature distribution of the plate.³ Since a person of ordinary skill, upon reading Ueda, would not design the roughness of the heat sink so as to prevent the heat from being easily conducted from the heat sink to the Peltier elements, it is respectfully submitted that there is no suggestion or motivation to modify Ueda to include components with the roughness values recited in Claim 15.

Accordingly, Applicants respectfully submit that Claims 15 patentably distinguishes over Ueda.

¹ For example, Specification, at page 14, lines 6-12.

² See, for example, column 7, lines 37-40.

³ For example, Specification, at page 14, lines 6-12.

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Similar arguments as set forth above apply to the rejection of Claims 18 and 21.

Therefore, independent Claim 15, 18, and 21 and dependent Claims 16 and 19 which depend from Claims 15 and 18 are also believed to be allowable.

Regarding the rejection of Claims 17, 20, 24 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Ueda, Claims 17, 20, 24 and 27 are dependent from Claims 15, 18, 22, and 25 which are believed to be allowable as discuss above, and therefore also believed to be allowable.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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